

*tus* in the fewer rays in dorsal and anal and in the tricuspid teeth. The usual color is also different.

The type specimens have been presented to the National Museum, and they are numbered 28,396 on the Museum Register. The largest measured  $1\frac{3}{4}$  inches.

Table of Measurements.

Locality.....San Diego, Cal.				
Dimensions.	<i>G. rhessodon.</i>		<i>G. reticulatus.</i>	
	Inches and 100ths.	100ths of length.	Inches and 100ths.	100ths of length.
Extreme length.....	1. 40	.....	2. 50	.....
Length to base of caudal fin .....	1. 20	.....	2. 05	.....
Body:				
Greatest height.....		20		19
Greatest width .....		27		25
Least height of tail .....		8		9
Length of caudal peduncle.....		9		4
Head:				
Greatest length.....		37		38
Greatest width .....		33		32
Width of interorbital area .....		13		15
Length of snout .....		11		12
Diameter of orbit .....		3		6
Dorsal:				
Distance from snout .....		65		65
Length of base .....		33		35
Anal:				
Distance from snout .....		68		70
Length of base .....		26		28
Caudal:				
Length of middle rays .....		18		22. 5
Pectoral:				
Distance from snout .....		38		39
Length .....		14		13
Anterior margin of ventral disk:				
Distance from snout .....		20		18
Length .....		29		34. 5
Dorsal.....	11	.....	13	.....
Anal.....	10	.....	13	.....

SAN DIEGO, CAL., January 15, 1881.

# DESCRIPTION OF A NEW GENUS AND SPECIES OF COTTIDÆ.

By W. N. LOCKINGTON.

*Chitonotus* gen. nov.

Allied to *Artedius* Girard.

Anal papilla of males excessively developed, and terminating in a narrower crescentic portion, from which springs a long tubular filament. First dorsal incompletely divided into two portions, the anterior the shorter. Lateral line armed with a series of keeled scales, toothed on keel and on hinder margin. Entire upper portion of body, save a narrow area along the base of the dorsal fin, covered with small strongly etenoid scales. Other characters as in *Artedius*. Type *Chitonotus megacephalus* Lockington.

This genus is instituted for the reception of *Artedius pugettensis* Steindachner (Ichthyol. Beiträge V. 133) and of the species here described.

*Chitonotus megacephalus*.

D. III, VII | 15-16. A. 15-16. C. 9 | 11 | 9. P. 18. V. I | 3.

Body deepest under origin of first dorsal, thence decreasing regularly to the caudal peduncle, which at its narrowest part is about two-sevenths of the greatest depth. Hinder part of head almost quadrangular in section, compressed, the compression increasing from the eyes forward.

Head  $3\frac{3}{13}$ – $3\frac{11}{16}$ ; greatest depth  $6\frac{1}{3}$  times in total length. Greatest width at gill-covers slightly less than greatest depth.

Eyes large, oval, about  $3\frac{1}{4}$  times in length of side of head, their longitudinal diameter exceeding the length of the snout by about five-twelfths; the hinder margin of the orbit rather nearer the tip of the operculum than that of the snout, and the interorbital space very narrow, so that the eyes are directed obliquely upwards.

Upper jaw slightly longer than the lower, which is received within it; posterior extremity of maxillary slightly in front of or beneath the posterior orbital margin. Teeth in both jaws villiform, sharp, uniform, in a long but not wide band. Intermaxillaries protractile downwards. Snout convex longitudinally and transversely.

Nostrils with membranous tubes; the anterior lateral, in a line between the centre of the eye and the tip of the upper jaw; the posterior in a concavity between the extremities of the ascending processes of the premaxillaries and the raised anterior upper orbital margin. Nasal tentacles long but narrow, situated above the anterior nostril and just in front of the sharp, backward-directed nasal spine. Eye tentacles similar to nasal tentacle.

Four preopercular spines; the upper longest, with 2-4 prongs on its upper side besides the tip; second horizontal; third directed downwards; lowest directed downwards and forwards.

Operculum unarmed, its membranous tip vertical with the first ray of the second half of the first dorsal. An inner and outer pair of spines behind each eye on top of head, outer spines the larger. Posterior to these spines a short ridge, ending in a backward-directed spine on back of head. Area between these spines somewhat concave transversely. Suborbital ring and stay narrow.

Origin of first dorsal over the commencement of the free horizontal upper border of the operculum. *First ray nearly equal in height to the length of the head*, second about two-thirds as long, third shorter than fourth, *and separated from it by an interspace twice as long as the others*, the membrane between these rays also deeply notched. Fifth and sixth rays longer than the fourth or than the following rays, which gradually diminish, giving the upper margin of the second part of the spinous dorsal a rounded outline. Central rays of second dorsal about half as long as the head. Anal similar to second dorsal.

Pectoral fanlike, its base very oblique, parallel with the hinder margin of the operculum, its longest rays about equal to four-fifths of the

head and reaching backwards to the second anal ray. Lower rays very short.

Middle ray of ventral rather longer than the first, considerably longer than the third, and reaching to the base of the anal papilla. All the rays of the preceding fins simple.

Caudal nearly straight on its posterior border, the two outer principal rays simple, the remaining nine once bifurcate. Accessory rays numerous.

Upper part of head and body covered with strongly ctenoid scales, except a narrow line along each side of dorsal. The scales of lateral line (about 39) more than twice as long and deep as those above them, ctenoid on hinder margin, and with a toothed keel near their upper margin. Lower portion of body scaleless.

Gill-openings continuous; the membrane emarginate, not attached to the isthmus. Branchiostegals six.

Males with a long anal papilla, ending in a crescentic stiff, tapering portion, from the upper side of which, near its tip, springs a long tubular filament.

Color of upper part of body reddish brown or gray, with obscure darker transverse bands. Fins dark olivaceous in recent examples, darkest toward the margins, the pectorals near base and the sides of the head greenish, thickly dotted with black. In some the dorsal and anal are lighter.

I have only seen adult males.

This species was first found in the markets of San Francisco in the summer of 1879, and was noticed by me in a paper published in the Mining and Scientific Press of that city, 1879, in the following terms: "Some months ago I wrote for publication a description of a small sculpin which I named *Chitonotus megacephalus*, the large-headed mailed-back. \* \* \* I find that Dr. Steindachner has got ahead of me, and has described the same fish from specimens obtained in Puget Sound. He also gives a figure. From this figure I judge that the form and proportions of the dorsal fin vary considerably. In my specimens the first spine is exceedingly long, the third quite short, shorter than the fourth, and as these spines are twice as distant from each other as are any of the others, and the membrane between them dips down almost to its base, the fin is practically divided in two. Dr. Steindachner's figure shows only a slight emargination of the fin, the first spine only slightly longer than the others, and the spines equidistant."

Professor Jordan, who has handled numerous examples from Puget Sound, informs me that they agree in every respect with the figure given by Steindachner, and that he has no doubt of the distinctness of the Californian type. In his description Dr. Steindachner mentions the division of the dorsal in terms that lead me to suspect that he possessed both types.

The name *megacephalus*, since it has been published along with a diagnosis of its leading points of difference from *C. pugettensis*, must, I presume, be retained, instead of a more expressive term which might be drawn from the form of the dorsal fins.

*C. megacephalus* is tolerably abundant in moderately deep water outside the Bay of San Francisco. Specimens numbered 27185 are in the National Museum.

#### DESCRIPTIONS OF NEW FISHES FROM ALASKA AND SIBERIA.

BY TARLETON H. BEAN.

Most of the species here described were obtained for the United States National Museum during the summer of 1880, through the assistance of the United States Coast Survey schooner Yukon, whose party the writer was permitted to accompany for the purpose of making collections, more particularly of fishes and fishery statistics, in Alaska. It would have been difficult, if not impossible, to secure so valuable a collection of the fishes in any other way, the Yukon having called at numerous ports along the major portion of the Alaskan coast as well as at Plover Bay, Siberia, where several species not elsewhere found were taken. The whole number of species taken is above 80, and it is due to the Superintendent of the United States Coast Survey and to Mr. W. H. Dall to say that their generous help has made this result possible.

In this article, which is simply preliminary to a detailed account, short notices only are given of fishes which are to be more fully described hereafter.

#### *Lycodes coccineus* n. s.

Museum Catalogue number 27748; collector's number (1712).

Big Diomed Island, September 10, 1880.

Br. VI; D. including half of caudal 87; A. including half of caudal 69; P. 18; V. 3. Posterior two-thirds of tail covered with scales which are not in contact. Fins and all parts of the body and head scaleless.

The total length of the typical specimen in its fresh state was 19.7 inches (484 millimeters). In its present state of preservation it has shrunk to 475 millimeters.

The species resembles *L. mucosus* Rich., but may be readily distinguished by its more extensive squamation, shorter and deeper head, stouter tail, more advanced position of ventrals and vent, and by its coloration; *L. mucosus*, too, has a lateral line consisting of rounded open pores, while *L. coccineus* has simply a few faint, short linear scratches which are almost imperceptible to the eye. These traces are seen only on that portion of the skin which has scales.

The greatest height of the body is a little less than half the length of the head, which constitutes nearly one-fourth of the total length. The pectoral is twice as long as the intermaxillary and terminates at a dis-